AP STATISTICS • EXERCISE SHEET

# 1.1 Introducing Statistics: What Can We Learn from Data?

Name: _____ Class: _____ Date: _____ **Total: 9 marks**

## Objective

Build the skills to answer exam questions on **what we can learn from data**.

**You must be able to:**

- identify the **individuals** 个体 (cases) and the **variables** 变量 in a data set
- describe **statistics** 统计学 as the science of learning from data that vary
- pose a **statistical question** 统计问题 that anticipates variability

## 1 Worked examples

Study these first. Each one shows the method for a question type used later.

### ■ Individuals and variables

The **individuals** are the people or objects described; the **variables** are the characteristics recorded about them.

### ■ Statistics and statistical questions

**Statistics** is the science of learning from **data that vary**. A good **statistical question anticipates variability** —its answer is a distribution of values, not a single fixed number.

## 2 Practice

**2.1** Define statistics. [1]

**2.2** In a data set of students' heights, state the individuals and the variable. [2]

**2.3** State one feature of a good statistical question. [1]

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## 3 Exam-style questions

**3.1** The people or objects described in a data set are the [1]

- **A** variables
- **B** individuals
- **C** statistics
- **D** graphs

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**3.2** A statistical question anticipates [1]

- **A** a single fixed answer
- **B** variability in the data
- **C** no data at all
- **D** a graph

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**3.3** A survey records each student's favourite sport.

(a) Name the individuals. [1]

(b) Name the variable. [1]

(c) State whether "What is my friend's height?" is a statistical question. [1]

## 4 Go further

- work through the **1.1 Introducing Statistics** lesson on the **Learn** page;
- read the **Exploring One-Variable Data** section of the AP Statistics handout on the **Know** page.

## Solutions

**2.1** the science of learning from data that vary.

**2.2** individuals: the students; variable: their height.

**2.3** it anticipates variability (its answer is a distribution, not one value).

**3.1 B**.

**3.2 B**.

**3.3** (a) the students. (b) favourite sport. (c) no —it has a single answer with no variability.